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Ophthalmic Record.

G. C. SAVAGE, M.D., Editor and Publisher.

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THE
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THE EIGHTH PERIODICAL INTERNATIONAL OPHTHALMOLOGICAL CONGRESS, HELD AT EDINBURGH, AUGUST 7-11, 1894.

By ALVIN A. HUBBELL, M.D., Buffalo, New York.

(*Continued from page 260 current volume.*)

INJURIES.

LEBER (4) had found that injuries of the eye from copper or brass are generally aseptic. Test cultures, however, should be made, and if micro-örganisms can be grown from the extracted foreign body or from the discharge from the wound, the eye should be enucleated; but if aseptic, the wound soon heals, and there is very little danger of sympathetic ophthalmia, as the latter is almost always septic in origin. It had not occurred in any of his cases, forty-six in number. Conservative treatment is especially indicated as long as the function of the retina is intact. He believed that in working people the retention of the globe is desired as they consider a globe, however disfigured, better than any substitute.

Knapp reported a case in which, twenty-three years ago, he had extracted a piece of gun-cap from the bottom of the vitreous which had entered the eye through the ciliary body three days before. He did this by means of a curved, grooved hook, passed through an opening made in the sclera, the fundus of the eye being illuminated during the operation by a head-mirror. A

cyst afterward developed at the point of entrance of the foreign body which he radically removed. He had seen the patient the past winter, and found the eye in good condition and with good sight.

Roosa, of New York, asked Leber if the situation of the wound had been fully considered by him, in speaking of the danger of sympathetic inflammation. It seemed to him that even an aseptic wound in the ciliary region might cause sympathetic inflammation, while one in the cornea or sclera might not.

Noyes had seen cases in which pieces of gun-cap remained visible on the retina for many years without further injury; but it had generally been his rule to enucleate eyes thus injured. It would be a great relief, both to him and his patients, if Prof. Leber could show him how to save such eyes, for the saving of even a deformed eye is a most precious attainment.

Kipp, of Newark, N. J., mentioned a case in which a piece of gun-cap entered the eye through the cornea and lens and lodged in the lower half of the retina, twenty-four years ago. The lens became absorbed, when the retina was seen to be clear, except at the point where the foreign body was lodged. There was no detachment, and vision is $\frac{20}{80}$.

Meyer, of Paris, had published a curious case in which a piece of gun-cap had entered the eye of a boy and could be seen resting upon the supero-external part of the fundus. A year later it was found to have been spontaneously expelled at the point of entrance, in the midst of a small subconjunctival abscess.

Leber, in closing, said that not in one case of his had he observed either sympathetic irritation or inflammation. He did not fear sympathetic irritation by reflex action, because this could be inhibited by performing enucleation afterward, if necessary. In two cases in which he had, for greater security, enucleated the eyeball, anatomical examination gave him the impression that the enucleation might have been avoided.

Panas (5) concluded his paper with regard to traumatic motor paralysis of the eye due to compression, as follows:

1. In the majority of cases the paralysis is due to fracture of the base of the skull.

2. The absence of depression of the bones of the vault of the skull is no proof that fissures do not exist in the base.

3. The nerves most frequently paralyzed are the sixth pair, owing to their being most intimately connected with the bone in question.

4. The compression may be caused either by the fracture itself or by hemorrhage into the cranium. In the former case, the paralysis is more or less immediate; in the latter, it may not appear until late, as in plastic exudations by phlogosis.

Chibret had recently had a case in which a lad had had his head squeezed transversely, through some mismanagement of an elevator, and three months after the accident had paralysis of both sixth nerves. He was obliged to practise a tenotomy of both internal recti muscles to enable the patient to walk without difficulty.

Dufour (18) read an interesting paper on the accidental retro-choroidal hemorrrhages which sometimes take place after operations on the eye. The accident was rare, Alb. von Graefe having only met with it twice in his extensive experience. The origin of the hemorrhage is retro-choroidal, as was obvious from a case in which he has seen it supervene after an iridectomy for the relief of extreme pain in a case of alsolute glaucoma. The eye was enucleated, and examination showed that a large hemorrhagic focus had pushed the retina and choroid toward the wound.

No examination of the eyes or of the heart and vessels had ever enabled him to diagnosticate, beforehand, a liability to hemorrhage. At first he had resorted to hemostatic measures, such as refrigeration, pressure and derivation, without success. In one case he enucleated the eye. During the past four years,

as soon as he had noticed symptoms of this complication he had injected a large dose of morphine into the temple, near the eye. He suggested adding to the injection a substance susceptible of producing nausea. He has treated three cases in this manner, with much less serious results than by other methods.

Ayres, of Cincinnati, reported a case in which this accident occurred four hours after iridectomy for glaucoma in a patient sixty-five years old. The entire vitreous was forced out. The eye was immediately enucleated.

Gruening, of New York, had seen the accident follow a cataract extraction in a man nearly ninety years old, in his own practice, and in another patient in Paris almost eighty years old.

Power, of London, thought it was remarkable that the accident was not more frequent, in view of the sudden reduction of tension in operation. He had had two or three cases occur in eyes that were not healthy. In one case an iridectomy had been performed, and in another a cataract extracted.

Darier thought the idea of provoking nausea to arrest hemorrhage seems practical, and suggested the injection of a small dose of apomorphine.

Dufour said, in closing, that the first two cataract patients were seventy and eighty years old respectively, the two glaucomatous cases were over sixty, and the last three operated cases were nearly seventy. He thought a solution of apomorphine and morphine would suit very well. But the cases occurred unawares, when the apomorphine was not immediately at hand. It would be well to have it in reserve.

MEDICAL THERAPEUTICS.

Mules (6 *b*) reported unusually good results in the treatment of corneal ulcers by placing an antiseptic wafer over the cornea and then using an iodoform pad with a bandage over the eyes for several days. The wafer is made of gelatin, a saturated solution of boracic acid and iodoform in impalpable powder.

It is dipped in boracic acid solution before being used. Cicatrization often occurs in three days.

Noyes said that Dr. Williams, of Cincinnati, at the meeting of this congress in 1876, recommended the use of pure carbolic acid to corneal ulcers, and he (Noyes) had many times proved the value of this procedure. Only one application is generally necessary, the result and the indications being practically the same as those in the use of the actual cautery.

Vian (20) recommended crude petroleum in the treatment of diphtheritic conjunctivitis, and reported three cases illustrating its effect. The first was one of ophthalmia neonatorum which in a few days was transformed into pseudo-membranous conjunctivitis. After failure with various remedies and loss of the right cornea by necrosis, he began cleansing the mucosa and palpebral folds twice a day at first, with a pencil dipped in petroleum, and later every three hours. Improvement began at once and recovery rapidly took place.

The second case was one of marked diphtheritic conjunctivitis in a child three years old, a grayish exudate completely covering the conjunctiva, the lids being indurated and swelled and the cornea becoming cloudy. The case was fully recovered after forty-six days under the applications of the petroleum.

The third case was in a boy three years old, but the disease was less severe. He was restored in a month by the same treatment.

He suggests that the applications of the petroleum should be made every hour.

Bach (24) believed that sub-conjunctival injections were ineffectual in corneal abscess, and was sustained in this belief by experiments made on rabbits in which he had produced corneal ulcers and abscesses by staphylococci. He preferred cauterization to grattage of the abscess as more certain and, also, as less dangerous. Hypopyon implies an inflammatory complication on the part of the iris and ciliary body.

Chibret (29) for twenty-nine years had suspected that iodide of potassium did not possess specific value in syphilis. Nineteen years of ophthalmic practice had confirmed him in this opinion. Observation and experience had established in his mind the following propositions:

1. In ocular syphilis, mercury, singly, acts nearly always; iodide of potassium, singly, never acts.

2. In general syphilis, mercury, alone, acts nearly always, and on all the accidents; iodide of potassium, alone, only acts on certain accidents and in an inconstant manner.

3. In ocular and general syphilis, mercury, alone, may serve as a test to fix the etiological diagnosis.

4. Mercury, alone specific in syphilis, is in the meantime a poison of the organism, especially of the nervous system; whence the gravity of nervous syphilis.

5. Iodide of potassium, as a counter poison to mercury, is frequently indicated in syphilis to eliminate or make tolerable the mercury.

6. The iodide acts, moreover, on lymphatism and on rheumatism.

7. Severe syphilis is only affected by mercury alone, or in combination with iodide.

Saturation and poisoning (salivation) by the mercury are the formal indications for the iodide of potassium.

He prefers to administer mercury by injections into the buttocks. He uses the soluble salts of mercury, and preferably the cyanide. He dissolves this in the proportion of 1 to 200 of water and glycerine with a slight addition of cocaine. A medium dose of this is one half centigram, and this should be repeated daily for from four to nine days, and then three times a week. If diarrhea supervenes, the injections should be suspended. The treatment, with occasional interruptions, should be continued two years at least, and even three or four in subjects in the decline of life.

Darier (30) gave preference to the injection of soluble salts of mercury, especially to the cyanide, when mercurial treatment is required in ophthalmology. He employed them largely diluted and repeated them every day or every other day according to indications. When the injections were not practicable he used inunctions. He somtimes used the "massive injections of insoluble salts of mercury" in cases which had already had a certain amount of mercurial treatment and were tolerant of it.

Intra-ocular injections were especially indicated in serious affections of the vitreous, deep-seated traumatic infections, advanced sympathetic ophthalmitis, grave syphilitic troubles which have resisted both general treatment and sub-conjunctival injections.

Sub-conjunctival injections have numerous indications: (1) they act as the most powerful and prompt means of practising antisepsis in traumatic and operative infection, in infective ulcers, and abscesses of the cornea with hypopyon; (2) they have a strong, resolutive action on torpid, parenchymatous keratitis, on choroidal exudations, and on plastic iritis when no well-marked nervous stasis is present; (3) as an anti-syphilitic, their action on the ocular manifestations of syphilis in all its stages is rapid and sure.

The principal contra-indication of sub-conjunctival injections is where there exists a vascular engorgement of the pericorneal network. The resorption is then very slow, and there is often violent reaction which is more alarming than dangerous.

Gutman had tried Darier's method in fifty cases without success. In a case of severe specific irido-choroiditis it made the disease much worse, and in another case hypopyon supervened.

Chibret had used sub-conjunctival injections of cyanide of mercury in ocular syphilis, especially in interstitial keratitis, with no question as to their efficacy. In suppurative diseases of the cornea and other diseases he had had variable results.

Hess and Bach in experiments with these injections of corro-

sive sublimate in rabbits, had not found the slightest effect on the course of corneal ulceration.

Deutschmann, who had made over 2,000 sub-conjunctival injections of corrosive sublimate, showed himself a partisan to this method. He had found them useful in both specific and nonspecific diseases of the eye, though more so in the former. In parenchymatous keratitis and acute iritis they are very beneficial. In corneal ulcers they are preferable to the actual cautery. These injections have the special merit of shortening morbid processes. But in post-operative suppuration they are not the best means of controlling the situation. They are also without effect in affections of the optic nerve.

Dufour affirmed the good results obtained by sub-conjunctival injections. He said it was probable that the quantity of corrosive sublimate necessary to be effective was much less than had been believed.

Darier replied that, contrary to Hess and Bach, mercury had been found in the eye by electrolysis in the experiments of Bonhi, Gallemaerts and Joly. The experiments of Hess demonstrated only that rabbits are refractory to these injections. From a clinical point of view, they have given good results to those who have used them on a large scale.

Valude (36) desired to add one or two recent observations to the facts he had published during the past year on the use of antipyrin in certain forms of optic-nerve atrophy, and to mention a case published by Dr. Bistis, of Constantantinople, where antipyrin had succeeded in ameliorating an optic-nerve atrophy which had resisted a variety of treatment.

The antipyrin should be given by hypodermic injections, using two grams of a saturated solution (one gram to two grams of water) every two days. This treatment is not suited to all forms of optic atrophy. It is only indicated in those which are consecutive to descending neuritis and which have their origin in meningitis or pachy-meningitis, localized or general. In

these cases the amblyophia has been preceded and is accompanied by headaches, and there were signs of optic neuritis before the atrophy.

The treatment by antipyrin suppresses the headache and increases the acuity of vision when all other treatment has failed. The most useful increase of the visual acuity is for near work.

SURGICAL THERAPEUTICS.

SNELLEN (1) read a paper recommending the covering of all operative and accidental wounds of the cornea and sclerotic by conjunctival flaps. In cataract extraction, Graefe's knife should be used and a conjunctival flap made. After enucleation the suturing of the conjunctiva favors healing. In wounds of the cornea or sclerotic, conjunctival flaps should be cut and stretched over them by sutures. After strabismus operations the conjunctiva should be made to cover the wound.

KNAPP (2) read a paper on 600 cases of cataract extraction which was listened to with great interest. He said that during the last four years he had performed 630 cataract extractions, but 30 of these being so complicated that a good result was impossible, were excluded from the report. Among the 600 extractions 52, or 8.6 per cent., were combined with iridectomy, indications for the latter being: (1) pathological condition of the eyes; (2) a manifest tendency to prolapse of iris, that is to say, the impossibility of obtaining a central pupil and maintaining it in its place during the eye movements, or while carrying the patient from the operating chair to the bed, and for fifteen or twenty minutes afterwards; (3) accidents occurring in the course of the operation. The visual results were good in 49, bad in three cases.

Out of the other 548 operations of simple extraction, *retention of the iris by constriction* took place in 55 cases (10.03 per cent.), a condition which was treated by operation (iridectomy, ablation with the aid of a galvano-cautery) in 14 cases, that is to say,

in 25.5 per cent. of the number of cases of incarceration of the iris, or 2.5 per cent. of the total number of extractions, among which were two cases of extractions with iridectomy. Among the 55 cases the result was good in 49($\frac{20}{20}$ in 7 cases), fairly good in 2, loss of eye in 2, loss of both eyes in 2. In one of the last the eyes were degenerated, and the other presented an extremely marked rheumatic diathesis.

Among the 600 cases of extraction, he performed 403 operations for secondary cataract, that is, 67 per cent. Almost all consisted in discission with a knife-needle. The reason for performing so many secondary operations was that he wished to give the patients the greatest possible visual acuity and to make it permanent. He had done this operation so often that he regarded it as almost wholly free from danger. In the present series of cases, visual acuity diminished a little only in eight or ten, but in one case the eye was completely lost in consequence of acute glaucoma, which supervened while the patient was returning to his home, which was situated at some distance from New York. The nature of the disease was not recognized, and the patient was treated by instillations of atropine. This was the second case of that kind which had come to his knowledge, but these two were the only cases of loss of the eye in at least 1,500 operations of secondary discission.

Acute glaucoma is an inherent consequence of discission; but it can invariably be cured by myotics, or iridectomy, and possibly by paracentesis of the anterior chamber. Among the 403 operations mentioned in this report, it occurred in 12 cases, or 3 per cent.; in 4 of these it yielded to the application of eserine; 7 were healed under the influence of iridectomy, and the twelfth was the one to which he had referred as resulting in loss of the eye.

Little, of Manchester, related his experience of the past five years, which included 428 extractions, of which 322 were with iridectomy, and 106 without. In the latter he had four failures,

of which 2 were from suppuration and 1 from glaucoma. In 10 cases, 2 of which were lost, as stated, there was prolapse of the iris. In 7 of these the iris was excised without bad effects and in 1 the prolapse was not touched.

Panas spoke of the treatment of secondary cataracts (secondary opacities of the capsule), and said that he had practised the secondary operation, by extracting the capsule, for more than twenty years, without causing any primary or consecutive complications, and with the result of raising the vision from $\frac{1}{15}$ 1. He had twice seen glaucoma after simple extraction of cataract.

Swanzy, of Dublin, said he was an advocate of the combined method, the iridectomy being small. In 200 consecutive cases he had but four of incarceration of the iris in the wound, or 2 per cent. He would be glad to adopt the simple method when Prof. Knapp had reduced his cases of iris prolapse and incarceration to one per cent., or, at any rate, to less than 2 per cent. Iridectomy had, moreover, no disadvantages beyond the unimportant one of a very slight disfigurement, which neither the patient nor his friends often discover.

Noyes said that apart from cases in which there was (1) undilability of the pupil, (2) the presence of a large amount of cortex, and (3) increased tension of the ball, he preferred the simple operation. His incision was almost a semicircle of the cornea, and the capsulotomy was in the form of an inverted T. He used atropine, both before and after the section, thus preventing adhesion of the iris to the capsule. The disadvantages of iridectomy in extraction, were: (1) the additional steps added to the operation; (2) the painfulness of the operation, in most cases of excising the iris; (3) the occurrence of incarceration of the iris or capsule in no small number of cases.

Hansen-Grut, of Copenhagen, said that they had all practised what Prof. Knapp had described. But all could not keep their patients sufficiently long to perform the discission, which he

advises not to be done until three weeks or more after the extraction. Knapp seemed to have more obedient patients. On the whole, they would do well not to go far into the discussion of methods of extraction. Every experienced operator believes his own method to be superior to that of any other man, and would not be taught. The old practitioner will not benefit by discussion, and the younger operator will only be puzzled.

Critchett, of London, said he was in accord with Swanzy. To avoid the pain of iridectomy, to which Noyes had alluded, he had adopted the plan, since the first introduction of the use of cocaine, of passing after the section is made, a few drops of a fresh, sterilized solution of cocaine directly into the anterior chamber, by means of a curette. At the end of a minute or two the iris is anesthetic, and can be excised without pain. No ill effects had ever followed. In discission of the capsule, he preferred a horizontal incision.

Teale, of Leeds, said that having been for the past twenty years an advocate of the simple extraction, it was his conviction, that with a suitable section, such as he had described in his Bowman lecture in 1893, the simple involves no difficulties from which the combined operation is free; that it has technical advantages over the latter; that in its average results it is equal to it, and in its perfect results, superior.

Snellen thought that statistics could not decide the comparative value of different methods of extraction of cataract. The choice of patients, the skill of the operator, the ability of assistants, the quality of instruments, and other circumstances must be taken into consideration. In the simple operation, he never replaces a prolapsed iris, but excises it at once. To prevent prolapse of the iris, pilocarpine should be applied during the operation; the eye must be thoroughly anesthetic, no speculum should be used, and the section should be large. The capsule may be needled two weeks after the extraction when it is easily done.

Knapp, in replying, said that it was on the strength of his recent experience that he maintained that the simple operation is not only the safest, but the best operation. Swanzy credited him with 10 per cent. of prolapses, but only fourteen cases, or 2.5 per cent. of all, had required operative treatment. The others recovered spontaneously, some with persistence of a small unirritative protrusion, not seriously interfering with sight, and in the others the prolapse disappeared. The eye, after a combined extraction, was, by the frequent incarceration of invisible iris and capsule in the scar, less resistant to obnoxious influences than when the iris was preserved. He practiced secondary discission in about two-thirds of his cases, and few patients objected to it. If successful, it left an ideal eye. The discission can be done at any time, without notable reaction, if the pupil is free from inflammatory products.

(*To be continued next month*).

PRACTICAL ADVICE UPON CATARACT EXTRACTION FOR THE YOUNG OPHTHALMOLOGIST.

By DR. HERMANN PAGENSTECHER, of Wiesbaden,

Translated from the Klin. Monatsblatter fur Augenheilkunde by Dunbar Roy, A.B., M. D., Atlanta.

He who has pursued throughout a long series of years the different articles upon the important subject of cataract extraction, will be obliged to admit that never have so many different opinions been held in regard to this operation as is just now the case. The yearly proposed modifications or pretended improvements in the technique of the operation will scarcely make a mentionable impression upon those ophthalmologists who have had many years of independent experience, and at the same time have had a large amount of operative material at their disposal. Such will quickly perceive what is

best to be kept from those improvements especially proposed and will appropriate perhaps one or the other which is the least different from his old and tried method, but still remaining essentially true to the latter.

Quite otherwise is it with the great host of young ophthalmologists who lack an extended experience, and who have at their disposal a very limited amount of material. They are in danger, on account of the manifold opinions now existing, of doubting in themselves, and they will err from the maxims already learnt, thus losing those fixed ideas which are so necessary and important to every operator. This struck us very forcibly in the article by Landolt upon the present status of cataract extraction to date. Landolt has taken the great trouble in the above mentioned article, of bringing together the opinions of a large number of ophthalmologists, upon first this point and then that. Even though thanksworthy was the task, and even though the individual opinions are so interesting, yet most of the readers will have gathered from it only what they have long been cognizant of, and that is that you can operate upon cataracts in very many different ways, and that the fancies of the different operators who adapt themselves to the many operative dexterities, are very varied. On this account the young ophthalmologists are in danger of becoming very much confused. On the other hand the question as to the fitness of the cataract for operation, will occasion doubt; the question as to whether the present unripe cataract belongs to the class of operative or nonoperative. Has he made his decision on this point, then another question arises to him; shall I operate with or without iridectomy, shall I remove a piece of the anterior capsule or shall I simply rupture it, and finally shall I irrigate the anterior chamber or not. We will consider for example in the above article one paragraph bearing upon this latter point. There appears on page fifty-seven this sentence, "performed in a very cautious manner" the

caution consisting mainly in this, that the irrigation of the anterior chamber shall be accomplished by means of a forcible stream of lukewarm, sterilized water without introducing the point of the instrument in the eye—"let the intraocular irrigation be carefully watched." "Nevertheless we should limit its use as a rule to those cases in which the aqueous humor is not sufficient for the complete expulsion of the lens debris, and for that reason we must not only be very carefully concerned as to the nature of the fluid used, but also as to its quantity and pressure." Colleague Landolt no doubt understands what he has to do in such cases, but I believe that between the lines I can read that he is no exalted adherent of this anterior chamber irrigation. I cannot comprehend why the young ophthalmologist should begin his practice bewildered with so many different advices. I have always endeavored to impress upon my assistants as well as the young physicians who visit my clinic, this important point, that they should never indulge in experiments but should hold fast to those indications and methods which from past experiences, and from the facts that they are the easiest to perform, afford the best chances for restoring the vision, and in using which the operator is never in doubt at any moment as to what is the next step to be taken. The young ophthalmologist should not be misled by attempting a method of which he is not completely master, simply through the idea of a cosmetic effect or the prospect of eventually obtaining a better acuteness of vision. He must, before everything else, go the safest way, and should omit nothing which could, in the remotest degree, effect either the result of his operation or even be questioned. It behooves him to be concerned not only on account of its obtaining for him a good reputation, but, what is yet of greater importance, to be concerned for the welfare of the patients who have entrusted themselves to his professional care. First by degrees, after his hand has become steadier and he has become a better master of the technique—for cataract operators

do not fall from heaven—he should seek out those cases of which he can attempt some modification, some slight change from the methods usually employed by him, and in this manner find out through his own experience what operative measures are suitable for each form of cataract, and furthermore, after he has thus obtained his operative dexterity, he will also be able to perform the same without further practice.

The advice which I give my assistants refers, in the first place, to rules and regulations of a general nature, and in the second place, to the peculiarities in the operative technique.

I. You should never operate upon a patient who has the slightest degree of fever.

II. You should find out positively whether there exists in the neighborhood of the eye to be operated upon, a source for a probable infection of the wound; the conjunctiva should be examined, the lids and their free border, and observe especially the condition of the lachrymal sac and duct.

III. You should examine into the condition of the fellow eye, and operate then only when the same shows no trace of irritation. Should the fellow eye be phthisical or yet painful on pressure, then you should enucleate it, or if that is refused then you should make beforehand a resection of the optic nerve. Should symptoms of sympathetic irritation be present, then you should wait at least six or eight weeks after enucleation before operating on the other eye—for sympathetic irritation can be increased to sympathetic inflammation through operative interference. Should the fellow eye show other inflammatory signs, especially of the iris and ciliary body, symptoms of iritis serosa or glaucomatous changes, then you should not operate until all these symptoms have completely subsided. Has the fellow eye in consequence of these or other processes, or in consequence of operative interference, lost every chance of again obtaining a useful vision, then you should enucleate the same, but wait at least four weeks before performing the

extraction, even if there are no appearances of sympathetic irritation.

IV. You should operate only on ripe cataracts.

V. You should operate only after a thorough cleansing of the operative field and its surroundings, the instruments and hands —Antisepsis should be considered so far as this is generally permissible and possible with the eye.

VI. You should separate the lids by means of retractors, which can be easily and quickly removed at any moment. With fixation forceps you should grasp the bulb as near as possible to the corneal rim exactly in that meridian which will run through the middle of the contemplated incision. You should make the incision with a small sharp Graefe knife through the sclero-corneal junction but aiming, however, to pass beyond the rim above so as to make a conjunctival flap. The incision should not be too great, yet above all not to small, about one third of the corneal circumference. It should be rather curved, for the strictly linear incision is not to be recommended. However the form of the incision is not so important as its size and situation.

VII. You should always make an iridectomy and replace the pillars before opening the capsule. Should this latter be found difficult of performance then you should clip off these protruding pieces of iris.

VIII. You should rupture the anterior capsule sufficiently in every direction, taking care not to produce a dislocation of the lens. You should avoid rupturing the capsule too peripherally. Only those anterior capsular cataracts which are very marked, should be removed with the forceps. An attempt to remove a transparent anterior capsule with forceps by an inexperienced hand can very easily cause a luxation of the lens, and thereby a loss of the vitreous body.

IX. You should expel the lens by means of pressure at the lower portion of the corneal rim, best of all with a glass spud,

and at the same time evacuating the remaining cortical debris by means of gently stroking the cornea. After this, if there still exists any cortical remains, the lid retractors having been removed, these can be expelled by grasping lightly the upper and lower lids between both thumbs and gently stroking the anterior portion of the globe with both lids in the direction of the incision. This procedure should not be carried on too long for fear that these cortical masses which are yet visible might remain back; likewise you should make no further attempts at removing any capsular remains with forceps.

X. The irrigation of the anterior chamber should be strenuously avoided.

XI. Should prolapse of the vitreous occur even before the capsule is ruptured, then you should remove the lens with capsule entire by means of a shallow spoon or fenestrated loop. This latter procedure can also be primarily used in over-ripe and much shrunken cataracts, especially if the tension of the vitreous is slight, and when you are operating upon a quiet and very sensible patient.

XII. The dressings should be made with only sterilized material.

XIII. The discission of a secondary cataract should be made only upon an eye free from irritation, yet as early as possible. The longer you wait the tougher the membrane becomes, and you will have great difficulty in producing an opening of sufficient size.

XIV. You should never undertake a discission by means of a needle introduced through the cornea, but it should be introduced through the sclero-corneal junction about three fourths or or one mm. from the corneal rim.

These in a few lines, are the rules which I am accustomed to give to my assistants and the young ophthalmologists who visit my clinic, on the grounds that I have had a peculiarly large experience and observation upon the manner and way in which begin-

ning ophthalmologists operate upon cataracts, and the manner in which by degrees they become familiar with the technique. I consider it of the greatest importance that an assistant, before he goes into practice, shall have performed a certain number of cataract extractions under the guidance of his teacher. The best operative course does not match a single cataract extraction upon the living subject, and the young ophthalmologist will go into the practice with quite a different confidence in himself if he has already had the occasion beforehand of treating a living eye with the knife and scissors. Even though the above mentioned ground-principles, which will certainly serve the young ophthalmologist as the best, are generally authoritative for me individually, yet it sometimes happens that in certain cases I deviate from the principles thus laid down. I do this on the grounds of individual experiences and observations which have presented themselves during the course of a long and active practice in ophthalmology, and which have taught me that special kinds of cataracts either allow certain modifications from the above mentioned normal indications, or even indicate them.

For instance in some cases I now frequently operate without iridectomy; in certain others, I remove the lens with its capsule entire; while in still others again I have made the incision with a broad, instead of with a small Graefe, knife, and so further. It would take too much time for me to point out the reason why in some cases I do this while in others I omit that, for it does not belong to the scope of this article, in that it has been written solely for the purpose of pointing out a safe way in which ophthalmologists just beginning the practice, can operate on all cataracts. He must himself find out by degrees in what cases, and how far, he can deviate from the principles thus laid down. In regard to certain points which have been mentioned above, I will on the other hand consider more in detail.

The old teaching that one should only operate on cata-

aracts thoroughly ripe, has of late years received a wonderful "shaking up," and day after day one does not fear to extract a lens which is only slightly opaque, provided only that such a patient is old enough. A limit no longer exists, and different operators modify their operative technique in an unlimited degree on the ground of individual experience. It is indeed fortunate that one need not wait, in a certain number of cases, for complete opacity of the lens, in fact cannot wait because many cataracts moreover do not become completely opaque, but yet as they exist, disturb in a very marked degree the vision of the patient. This happens especially with cataracts in which the posterior pole is decidedly opaque, while the nucleus and anterior pole show but slight opacity and with which at the same time there has already occurred a shrinking of the whole lens substance. It is also fortunate that one can operate upon cataracts with only slight opacities, be such in the equator, nucleus, anterior or posterior pole of the lens, provided only that the sclerosis of the nucleus has to some degree advanced. But when one compares the results obtained in such cases with those in fully ripened cataracts, by careful observation he will come to the conclusion that one would be surprised at the number of complications which follow the operations on unripe cataracts, such as thick secondary cataracts, iritic irritations, and in some cases even followed by symptoms of glaucoma so that frequently the final result is very much obscured. On this account my advice to the young ophthalmologist who, according to the teachings of to-day, will very frequently be in doubt as to whether the opacity has advanced far enough for him to undertake the operation in the case before him, is to wait for the natural ripening of the cataract if he wishes to obtain the best results, or in case the patient is urgent for an operation he can perform an iridectomy followed with a gentle massage of the lens through the cornea for the purpose of producing an artificial ripening. In addition it sometimes happens that

patients with unripe cataracts who have been operated upon most successfully are by no means pleased with the results obtained (in the vision); this is especially true of patients with hyperopic eyes. According to my experience too great a risk is being taken in operating upon unripe cataracts, and I am of the opinion that this reaction will not hold out, just as they are now shooting wide of the mark in reference to the cure of myopia through the removal of the lens. In this latter a revulsion it sure to follow either in the near future or at a later period. In preparing for the operation a thorough cleansing should be made of the whole operative field. The manner and method as used by me in the clinic is as follows:

On the day before the operation, usually in the evening after the patient has had a bath, a thorough cleansing of the face is made, especially of the lids with lukewarm water and soap, after which the conjunctival sac is thoroughly irrigated with a sublimate solution 1:5000 as also the lachrymal sac, to be followed with dressings of the same solution for an interval of half an hour over the eye. On the next day half an hour before the operation, the same cleansing and dressings are again used, and directly before the operation another irrigation of the conjunctival sac is made with the 1:5000 sublimate solution. A 2% solution of cocaine is used dropped into the eye three or four times during an interval of three or four minutes before the operation. The instruments are cleaned with hot water and soap, and then placed into a 3% carbolic acid solution. The hands are cleaned with soap and sublimate solution, 1:1000. During and after the operation, sublimate solution 1:5000 is used for cleansing the eyes. For a long time I have used throughout the operation only water physiologically sterilized by boiling, just as is used by Michel in his clinic, but I have again returned to the use of the sublimate solution, since on account of the difficulty of completely cleansing the conjunctival sac, I must acknowledge that, at all events, a sublimate

solution of 1:5000 is more apt to render any existing germs innoxious than water sterilized by boiling, and furthermore the sublimate solution does not produce any noticeable injurious effects. The conjunctival catarrhs which sometimes follow the use of this solution are of no great importance, therefore I see no reason for discontinuing its use. In reference to the principles which are to guide us in regard to patients suffering with some disease of the lachrymal canal I shall not fail to speak. When purulent or muco-purulent secretion exists from the sides of the lachrymal sac or from an impassible stenosis of the canal, one accomplishes the best results by extirpating the lachrymal sac before the operation, and at the same time obliterating the canaliculi with the galvano-cautery as has been recommended for some time by Haab.

The question, shall we operate with or without iredectomy which has of late been discussed more than enough, is very easily answered. We should operate in all those cases without iridectomy in which we can determine with certainty that no disadvantage will be on our side, that is, in which we will have no prolapse of the iris to fear. Unfortunately in every case this is impossible to determine, and upon this vulnerable point all endeavors will have to fail in attempting to methodically extract all senile uncomplicated cataracts without iridectomy. Nor will even the most experienced operator be able to say before the operation that he will operate upon this or that eye without iridectomy or without a fear of a prolapse in the iris. This circumstance alone is enough for me to dissuade young ophthalmologists from at first performing extraction without iridectomy. A perfect iridectomy, without the entanglement of the pillars, undertaken finally after the expulsion of the lens necessitates a much greater display of operative skill than an iridectomy before the extraction, and furthermore it affords a much better chance for the prolapse of the vitreous. The presence of an iris prolapse depends more especially upon the

form and structure of the iris, and less upon the manner in which the incision is made. Should the iris contract promptly after prolapsing, or should it contract just as promptly without prolapsing, or only after a gentle endeavor to replace the same following the expulsion of the lens, and should it furthermore show no tendency to such an accident even after the toilette has been made, then you can assert with safety, supposing that the patients will take proper care of themselves, that there need be no fear for any further accident in this direction. On the other hand should the iris appear lax with no tendency to contract, and should it be necessary for you to make long and repeated attempts at its reposition, then you should never feel safe as to the final result even though the iris should finally be replaced. Everything may work beautifully at the time, but just as beautifully may there be a prolapse of the iris present the next day. In such cases, and especially those in which complete reposition will not succeed, I draw the iris out either directly after making the incision, or even after the expulsion of the lens, and proceed to make an iridectomy. The structure of the cataract itself has no influence upon the iris prolapse. A very important point for the prevention of a prolapse, is to cause a rapid closure of the wound which will thus quickly produce a deep anterior chamber. For this reason I lay stress upon the making of a conjunctival flap in your incision.

The question now arises: has the extraction without iridectomy real advantages over that with iridectomy, and why do some ophthalmologists hold such an exalted opinion for the so-called simple extraction? On the ground of my own observations, I may be permitted to say the following in regard to this point:

The simple extraction has certainly its advantages. Its chief advantage according to my judgment consists mainly in the absence of irritation during the process of healing. Irritative symptoms in the eye as a whole, but more especially in the

wound and its contiguous parts, are as a rule very slight. A priori is this most likely to happen in simple extractions in that we have only one wound in this operation, while in the operation with iridectomy we have two. Furthermore this circumstance may also contribute a part in the result, viz.: that a healing with the lens capsule in the wound scarcely ever occurs in simple extraction, while in that with iridectomy it frequently happens. Contusion of the iris sometimes takes place in extraction without iridectomy, during the expulsion of the lens, yet this is never a cause of irritative appearances or complications, and one should never make an iridectomy simply to avoid the possibility of an iris contusion. A further advantage in the simple extraction consists in the retention of the naturally round pupil, an advantage which is chiefly cosmetic, but in some cases it may aid in making the vision more perfect, and in excluding the extra rays of light. But according to my opinion those which have been mentioned above are about all the advantages which could be enumerated.

On the other hand the simple method has also its shady side by no means unimportant. In attempting to generalize these we should never forget to mention prolapses of the iris, and a drawing in of the pupillary area towards the wound which always indicates a partial healing of the iris periphery between the lips of the incision.

Of prolapses of the iris all operators reckon from eight to ten and even more per cent., a right respectable number when you take into consideration, not to mention the unsightly appearances, the protracted course of healing, and the evil consequences that may arise therefrom. In his last article Knapp mentions the fact that in consequence of an iris prolapse, he lost an eye from suppuration, and in two other cases, each time both eyes, in consequence of chronic irido-cyclitis with the resulting sympathetic ophthalmia. Those are indeed sad experiences, and even the large number of round pupils have paid

too dearly for these results! If such casualties befall an operator who has enjoyed such a rich experience in the field of simple extractions, how much more necessary is it for the young ophthalmologist to be on his guard both for the sake of his own interest and that of his patient. A further disadvantage in extraction without iridectomy consists in the difficulty of removing entirely the mass of cortical matter which remains behind, in consequence of which posterior synechia, and even secondary cataracts are more frequent than in extractions with iridectomy. For this reason it is more often necessary to perform discissions in the simple extractions than in those with iridectomy. I have previously insisted upon the fact that one should never undertake discission of a secondary cataract through the cornea but always through the sclero corneal junction. I have employed this method up to now in nearly a hundred cases, and from my own experience I can warmly commend the same. I must acknowledge that before this time discission was to me a very unpleasant operation, since in spite of its seeming simplicity and lack of danger, it frequently turned out by no means satisfactory, but often with irritative symptoms which continued for some time after the operation. Besides slight iritic symptoms, as well as the yet more frequent signs of glaucoma, there occurred very often a reaction at the point of puncture in the cornea, especially if at the time of the discission, an escape of the aqueous humor and prolapse of the corpus vitrei had taken place which would thus retard the healing process. If one further took into consideration how frequently simple abrasions and cuts of the cornea occasion long-standing troubles of the eye, and how much more easily these same injuries are subject to infection than wounds of the conjunctiva, then they would certainly shun the injuring of the cornea. Even other operators have sought to avoid this puncturing of the cornea. For this reason Kuhnt maks the discission, subconjunctival with a small knife especially devised for this pur-

pose, while others make an incision with a lance shaped knife, and tear either through the secondary cataract with a hook, or simply cut through the same. Others again make the discission through the sclera. I make the operation through the sclro-corneal junction in all cases when possible with a long narrow, slightly conical cataract needle, just as was formerly used in couching, laying especial stress upon the fact that the needle should be as thin as possible, and gradually becoming thicker behind, because by this manner the escape of the aqueous humor is hindered. Signs of irritation after the operation are in the rule nil, and even glaucomatous symptoms seldom occur. I consider this slight modification in the operation as very important, and am convinced that discission through the cornea will be abandoned completely.

[I have not confined myself literally to the text throughout but have endeavored to make the article clear by the free use of English expressions whenever it was found necessary.—TRANSLATOR.]

The Grand.

SCIENTIFIC PROCEEDINGS OF THE SECTION OF OPHTHALMOLOGY OF THE BRITISH MEDICAL ASSOCIATION, BRISTOL MEETING, 1894.

[*Report continued from page 238, current volume.*]

THE TREATMENT OF TRACHOMA.

By DR. KENNETH SCOTT.

The author of the paper not being present, it was read by Mr. Johnson, the secretary. The author had treated twenty-six cases with the bichloride of mercury and the same number with the cyanide of mercury, with the view of deciding their comparative value. While he found these equally effective as to the length of time necessary for a cure, he favored the cyanide as more agreeable to the patients. He used the cyanide in a 4% solution once a day, applying it to the everted lids, and allowed the patient to use three times a day ¼% solution, dropping it into the conjunctival sac.

He did not look with favor on surgical treatment, such as scraping and squeezing. His experience was also against the use of silver nitrate.

DISCUSSION.

The discussion following the reading of Dr. Scott's paper was in part on his paper and partly on Mr. Juler's paper (See the abstract in December issue, p. 236).

Mr. Stephenson said he always found the gonococcus in purulent ophthalmia. The lymph follicles act as sentinels and may be found enlarged in both purulent ophthalmia and trachoma. This enlargement quickly disappears when due to purulent ophthalmia, but not so when caused by trachoma. A simple enlargement of these follicles in the lower cul-de-sac is often found in young children, which disappears after a while with-

out treatment. As to the treatment of trachoma, he preferred the cyanide of mercury to the bichloride, but the remedy which he favored above all others was the sulphate of copper in stick.

Dr. Knapp said that there are two forms of trachoma. In the one form the trachoma bodies are numerous, and some of them large, while the inflammatory action is very slight. These cases should be treated by expression by means of the roller forceps. The inflammatory form should be treated by silver nitrate, copper sulphate, or the bichloride. In these cases expression does not succeed.

Miss Ellerby, M.D.: My experience during four years' experience in Bombay, in the treatment of trachoma, fully agrees with Mr. Stephenson's remarks as to the efficacy of the use of the solid sulphate of copper. It was my practice, however, to apply it, not every day, but in the newer cases every second day, and later on, twice a week. I employed in the intervals, once or perhaps twice daily, a solution of sulphate of copper, two grains to the ounce in strength. The average time of cure in quite 90 per 100 of my cases was from two to three months.

As regards purulent ophthalmia, the cure of which is so complicated in eastern countries by the habits of the people and the bad hygienic conditions in which they live, I found the constant use of peroxide of hydrogen for cleansing and disinfecting purposes very efficacious. In conjunction with this I applied daily, or twice daily, a solution of nitrate of silver not stronger than four grains to the ounce—for the first two or three days, two grains to the ounce later.

Dr. Chisolm endorsed the use of hydrogen peroxide in the treatment of conjunctival inflammations. He related the case of a man who came to him to be operated on for cataract, but who was also suffering with chronic conjunctivitis attended by a muco-purulent discharge. He used on him the peroxide very freely and in one day the discharge ceased, and the cataract operation was done successfully.

Dr. Drake Brockman endorsed the old-time treatment of trachoma by copper sulphate. He treats his cases of catarrhal conjunctivitis with frequent cleansing of the conjunctival sac by means of syringing a very mild solution of the bichloride of mercury and using once a day a weaker or stronger solution of silver, as the discharge might be slight or profuse. As the cure advances he lessens the strength of the silver solution.

India is the stronghold of trachoma, but most of the cases are old before we see them Copper sulphate cures them in about six months.

Surg. Capt. Fink had seen many cases of purulent ophthalmia in India, and had treated them with silver nitrate in strong solution, and had frequent cleansings. He treated his trachoma cases with the sulphate of copper stick.

Mr. John Griffith said that the diagnosis of inflammations of the conjunctiva by the microscope was hard to make. He had found lymphoid infiltration most common in trachoma, but the presence or absence of this condition cannot be relied on.

Dr. J. L. Thompson said that the late war in the United States had spread trachoma all over the country. As to treatment he said that recent cases could be cured by cleanliness and the use of boracic acid; that old cases were hard to cure by any or all means. In purulent ophthalmia his treatment was cleanliness and silver nitrate.

Dr. Knapp, in answer to a question, said that expression cures the non-inflammatory cases of trachoma and helps the cure in other cases, in which copper sulphate should be used.

Dr. Wallace Brown favored the use of copper sulphate in the treatment of trachoma. In acute cases he uses silver nitrate.

Mr. Doyne said that, in Oxford, there was but little trachoma. In looking over the record of 12,000 eye cases he found that there were but twenty-one cases of trachoma, and that nine of these cases had been imported.

Mr. Gillivray said that he used Knapp's expression forceps, first chloroforming his patients. He immediately rubbed into the denuded surface a solution of the bichloride 1 to 1,000.

Mr. Walker said it had been observed in Egypt that trachoma was more readily cured in hot than in cold weather. He supposed that this was true as to all countries.

Dr. Chisolm said there are 70,000 negroes in Baltimore, and there is not one case of trachoma among them.

Mr. Ernest Clark read a paper on the

ASSOCIATION OF BLEPHARITIS WITH ASTIGMATISM.

He gave statistics showing the frequency of this association. His conclusion was that the refractive error was a causative agent, and that to cure the disease the error must first be corrected.

The next paper was by Dr. George M. Gould, on

LOW DEGREES OF EYE-STRAIN A SOURCE OF SYSTEMIC DISTURBANCE.

The author taught that when the error of refraction is slight, the ciliary muscle makes a more determined effort to correct it than when the error is great. This effective effort though slight, if long continued, brings on fatigue and the various nervous phenomena with which all are so well acquainted. Without dealing largely in statistics, the author presented many strong arguments in favor of earnestly searching for, and correcting, the slight errors of refraction, and the low degrees of heterophoria. But, in no sense, did he teach that the greater errors should be allowed to go uncorrected.

The next paper was by Mr. Jno. Griffith on the

SECRETORY FUNCTION OF THE CILIARY BODY.

This paper has already been published in full in this journal, page 201, No. 6, of the current volume.

Dr. Herman Snellen, in a paper on

KERATITIS PUNCTATA,

stated that he had found a peculiar micro-organism which he believed to be the specific cause of the disease. In his investi-

gation he had removed some of the deposit on the posterior surface of the cornea through a puncture which he had made for the purpose.This deposit he had studied under the microscope with the result of finding the microbe.

In discussing this paper Dr. J. L. Thompson said that he looked on the disease as one remarkably dangerous.

Dr. Knapp expressed himself as astonished, and stated that no microbes had ever before been found in a normal secretion.

Mr. Wray read a paper on

MIXED ASTIGMATISM.

He thought it a condition far less common than was generally supposed. Most cases so recorded, if more thoroughly investigated, would prove to be cases of hyperopic astigmatism simple or compound. Knowing, as he must, that a mydriatic alone could clear the diagnosis, he, nevertheless, expressed himself against its use.

Dr. S. J. Taylor reported a case of probable disease of the lenticular ganglion.

Mr. McGillivray read a paper advocating the use of cold applications in the treatment of ocular inflammations.

Mr. Thompson, Secretary of the Section, reported a case of sloughing of the cornea, occurring in the course of an attack of jaundice which terminated in death.

Mr. George Walker spoke of corneal ulcers requiring surgical procedure. He had devised an operation safer and better than the one known as Saemesch's operation. It consists of scleral punctures at short intervals near the corneo-scleral junction and in front of the iris, throughout the greater part of, if not the entire, circumference. He said that he had done this operation frequently in cases of interstital keratitis with most satisfactory results.

Dr. Reeve thought that, in addition to the punctures, the corneal ulcers should be treated.

Dr. Stephenson reported a case of orbital cellulitis following Mules operation. He had done the operation thirty times, twenty-nine of the cases doing well. In the case followed by cellulitis he was forced to remove the stump.

Dr. Robt. Ruttles, at the close of the session, gave an epitome of his paper on tumors of the eye and orbit.

SECTION OF OPHTHALMOLOGY, A. M. A., BALTIMORE MEETING.

The Secretary of the Section on Ophthalmology of the American Medical Association has received a large number of contributions to the program, which make it probable that the sessions of this Section will be especially interesting and profitable. Members of the Association who are desirous of contributing to the work of the Section, should forward the titles of their papers at an early date, in order to secure a place before the program is filled. The Chairman, Dr. Edward Jackson, writes that he has arranged symposia of ten minute papers on "Plastic Operations about the Eye," and "Operations upon the Ocular Muscles," which, with the report of the committee on "Examination of the Eyes of School Children," will be of special interest. Those preparing contributions should remember that only brief, practical papers upon subjects of real value should be brought before such a representative body as the Section on Ophthalmology of the American Medical Association.

H. V. Wurdemann,
805 Grand Ave., Milwaukee, Wis.

MODIFICATION OF "THE MADDOX ROD."

By J. FREDERICK HERBERT, M.D., Philadelphia, Pa.

One of the best and simplest means at our command for testing the equilibrium of the ocular muscles is the Maddox Rod, and to make same still more delicate, I have suggested several changes or additions.

1st. The rod should be made of *red* glass, and should be cut in half longitudinally, so that it is really a very strong cylinder. The red streak is more easily seen by the patient, and does away with the necessity of a plain red glass for the other eye.

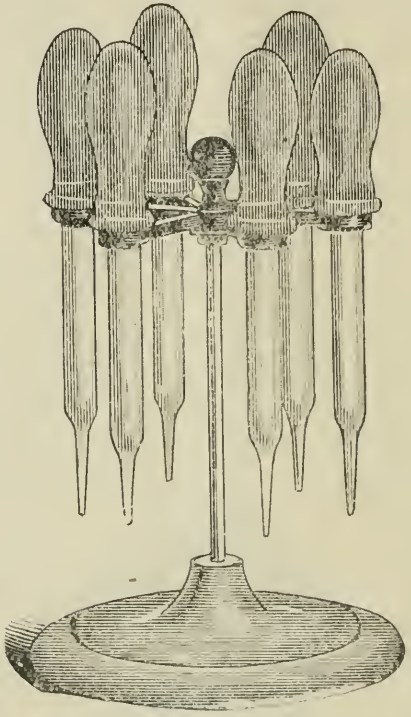
2d. By placing a stenopaic slit not over two millimeters long behind the rod, increases the delicacy of the test, as it prevents the person being tested from moving the head about as they must direct their eye through the central opening, as it also

cuts off all superfluous light. Care should be taken that the slit covers the rod in all directions, so as not to admit any extraneous rays.

3d. The disc on which the rod is fastened has a milled edge which facilitates the rotation in the trial frame, and on the face or flat surface of the disc are two broad, white lines indicating the horizontal and vertical positions of the streak. The advantage of this can readily be seen, as the rod can be placed properly without the loss of time.

PIPETTE HOLDER.

The advantage and usefulness of the holder needs no special comment, the illustration speaks for itself. It will be apparent to all that it fills a long-felt want to the armamentarium of



the oculist. It will be a great convenience to the busy man, as it can always be kept "*in sight*," and will save the trouble of looking for a pipette, which was hastily thrown on the table or desk only to be buried under a lot of books or papers, and certainly a cleanlier way to keep them. The holder consists of a base with an upright bar from which extend the arms terminating in loops which form the receptacles for the pipettes. The rubber tips on the droppers are made of white, black, and red rubber, merely so arranged for convenience sake. One color can be used for mydriatics, another for cocaine, etc., etc.

The rod and holders are made by Messrs. Reimold & Meister, 41 N. 13th st., Philadelphia, Pa.

1313 Arch St.

SCIENTIFIC PROCEEDINGS OF THE SECTION OF OPHTHALMOLOGY, A. M. ASSOCIATION, SAN FRANCISCO MEETING, 1894.*

[*Continued from page 274, current volume.*]

ASTHENOPIA.

By C. M. HOBBY, M.D., Iowa City, Iowa.

The substance of this paper can be gotten from the few quotations that follow:

"Asthenopia is to the visual function what dyspepsia is to the digestive, a congeries of symptoms differing somewhat according to the pathologic views of the physician in charge, and often like dyspepsia cured by the physician instead of by the prescription. As ordinarily employed, without reference to pathology, it comprises several groups of symptoms following the more or less prolonged use of vision at short range, but it is sometimes made to cover uncomfortable vision at all distances; the same symptoms occurring to a presbyopic patient are not usually considered asthenopic, although some logically include unrelieved presbyopia with asthenopia. Not infrequently reflex disturbances, unconnected with the visual organs, are considered as asthenopic phenomena; blepharitis marginalis, which is apparently frequently caused by refractive errors, and mild forms of conjunctivitis, are sometimes considered as symptoms of asthenopia rather than as causes for the ocular discomfort. Accepting hyperopia, especially when associated with astigmatism, as a cause for headaches, and even of the more violent migraines and hemicranias, and believing, as we may, that epileptic attacks have ceased after the correction of refractive error, do we not recognize under all these circum-

*This report is taken largely from *The Journal.*

stances that the refractive error is only one factor in the cause, and that back of all there exists a predisposing systemic condition?

"It would be of decided advantage if the term, asthenopia, could be restricted in its meaning to the effects produced by the use of one or both eyes burdened by some abnormal increase in the muscular labor of vision, that is, some burden upon the accommodative function, internal or external; but the symptoms called asthenopic occur in perfectly normal conditions, at least so far as the visual organs are concerned, and we are compelled to consider these cases with others.

"When we come to consider the great number of cases who have defective vision, from refractive and other causes, but who never complain of those symptoms called asthenopic we are forced, I think, to the conclusion that asthenopia indicates inadaptability to environment, and that it is the individual and not the eyes that are asthenopic. What is true in regard to errors of refraction is apparently true of the so-called muscular asthenopia; while records of heterophoria are not so extensive and the observations made lack the ripening effect of time, and while as in astigmatism of low grade the subject of heterophoria does not consult the physician unless there exists some form of uncomfortable vision, enough observations have been made to show that heterophoria without asthenopic symptoms is sufficiently common, and to lead to the belief that it is not to the muscular insufficiencies alone that the occurrence of asthenopia of the variety termed muscular is to be attributed.

"As asthenopia is not a necessary result of any of the various conditions to which it has been attributed, and is yet often cured or materially improved by relief or attempts to relieve real or imaginary causes of increased effort, or by training the internal or external muscles of the eye, as well as by systems of muscular exercise, we cannot do too much towards establishing some basis for efforts at relief that shall be less empirical,

without substituting a dogmatic physiology of the function of vision. And it is well at this time to protest against the tendency to consider everything connected with the visual organs, as governed by inflexible mathematical formulæ. The evidence is not in, which compels us to believe that the muscles of the eye are innately endowed with certain coördinative functions, or that they have a brain center which is prepared to correlate their movements without the necessity of the training that experience gives, or that their functional activity is exerted under different laws from those governing the rest of the muscular system. It may be believed that the coördinated movements of the muscles of the eyes to perform a given task is the result of the same kind of practice, the same kind of training that pursued through a long time gives to the fingers and hands of the typesetters or the musician their distinctive skill, the same kind of training and experience that the babe must go through with before standing on its feet and walking.

"A man accustomed to the work may saw wood for ten hours, a woman may busy her fingers in knitting for the same length of time; but the man, unaccustomed to the saw, would soon find back and arms complaining of the unwonted labor, and the inexperienced knitter would soon feel fatigue in the fingers. The same is true with those who attempt to use the eyes at a new and prolonged tasks; the adult whom will or circumstances kept from studious habits in early life, suddenly attempting to make up lost time; the woman who is suddenly deprived of her means of support and who attempts to gain her livelihood by sewing; the active man who attempts to confine himself to book-keeping; all of these are likely to exhibit asthenopic symptoms whether they have refractive error or not. Correcting visual disorders is of undoubted service to them but complete relief awaits their adjustment to environment."

[*To be continued in next issue.—Ed.*]

THE OPHTHALMIC RECORD,

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The Royal Eye Hospital, London.

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Eighth International Congress of Ophthalmology.

The excellent report of this meeting, a part published in the last issue, continued in this number, and to be completed in the March issue, was intended, at first, for publication only in the *Buffalo Medical and Surgical Journal.* Learning of Dr. Hubbell's intention to write the report, we at once asked him to get the editor of that journal to give his consent to the republication of same in the RECORD. In due course of mail a letter came from Dr. W. W. Potter, the enterprising editor, granting our request. In this connection we take pleasure in stating that Dr. Potter is a live, wide-awake man at the head of one of the best monthly journals published, over the pages of which no Doctor can even glance without being benefited.

The Baltimore Meeting of the American Medical Association.

No meeting of the Association of recent years has been more largely attended than will be the one to be held in Baltimore. The scientific work to be done there will compare well with that of any of the past meetings. Officers of all the Sections have been active in collecting material for presentation. Especially is this true of Dr. Edward Jackson, Chairman, and Dr. H. V. Würdemann, Secretary of the Section of Ophthalmology. Read the Secretary's notice in this issue.

Thirty-six papers have already been promised Drs. Jackson and Würdemann, but there is still room for a few more. We hope to be able to present the program to our readers in the next issue, or, at latest, in the April number.

Section of Ophthalmology of the British Medical Association.

In this issue we conclude the report of the Bristol meeting, which we had the pleasure of attending. We hope that the imperfect report that has been given has been helpful to at least some of our readers. The meeting was a very pleasant one, and, what is better, it was profitable. One from America had a very home-like feeling, for his American colleagues were there in numbers. At one time there were thirteen of these in the hall. Several, as the report shows, read or discussed papers.

The profession and people of Bristol were very kind to the foreign visitors. Most of us will ever remember pleasantly our short stay in that old city. The editor of this journal feels especially indebted to Mr. Cross, President of the Section, and to Mr. Craig Smith, the noted surgeon, for courtesies shown him and his friends. Should we go to Europe again we would feel much inclined to revisit Bristol.

Our Advertisers.

On page 2 of the cover will be found the advertisement of that well known firm W. H. Shieffelin & Co., of New York. Some of the drugs they offer to the profession are indispensable to the ophthalmic surgeon. Most of the Record's readers have often prescribed Aristol for the several conditions in which it is indicated.

On page 3 of the cover one of the best railroads in the South has its ad. The Nashville and Chattanooga R. R., from Nashville to Atlanta, will be pleasantly remembered by our Northwestern and Western confreres, who have made one or several trips over it when going to Florida for a vacation. On the same page will be seen the picture of the Nicholson

House, Nashville, new and newly furnished, where Doctors, and especially friends of the Record, are always treated with the kindest consideration.

On the last page of the cover will be found the changeable ad. of the Geneva Optical Co., of Chicago, whose many devises for aiding the oculist are already well known. One of the latest and best is their Optomyometer, and instrument with which any muscular error may be quickly detected and accurately measured. It is a perfect instrument for determining the existence and quantity of cyclophoria (insufficiency of the obliques). A cut of this will appear in an early issue.

Turning to the inside pages, the changeable ad. of Reimold and Meister, of Philadelphia, will be found on page I. In former issues the convenient and useful instrument for determining Heterophoria and the anomalies of refraction, devised by Dr. J. Frederic Herbert, has been placed before you. We have one and would not like to be deprived of its use. In this issue they show their New Trial Frame, and a very simple, cheap and accurate perimeter.

Page II is reserved for the ad. of one of the best Medical Colleges in this country.

Page III is occupied in part by the ad. of J. Fehr's Comp. Talcum Baby Powder, widely known and extensively used. Our observation convinces us that it is very useful. The remainder of this page shows Wotten's Current Converter, which, as the readers of the Record have already been assured by Dr. A. G. Hobbs, is a simple and practical apparatus.

Page IV is occupied by one of our local jewelers, and two local drug firms, each first-class in his line, and all of them interested in the prosperity of the Record.

On page V will be found the ad. of Miner and Elbreg, of Indianapolis, whose Perfection Chair "stands at the head of the list" of surgical chairs. We have been using one six years, and when it wears out we propose buying another just like it, plus some later improvements.

On page VI F. A. Hardy & Co., of Chicago, who need no laudation from us, for their works do praise them, show you their improved Javal Ophthalmometer for which they claim several points of advantage, clearly set forth in their catalogue. As to their prescription work, our personal knowledge, extending now over many years, enables us to say they are pains-taking and accurate.

The permanent place for the price list of reprints from the Record is on page VII. On the same page will be found the advertisement of A Practice for Sale.

On the last page (VIII) is the ad. of the Jackson Seating and Cabinet Co., one of their specialties being a Throat and Nose Cabinet, one of which we have and enjoy.

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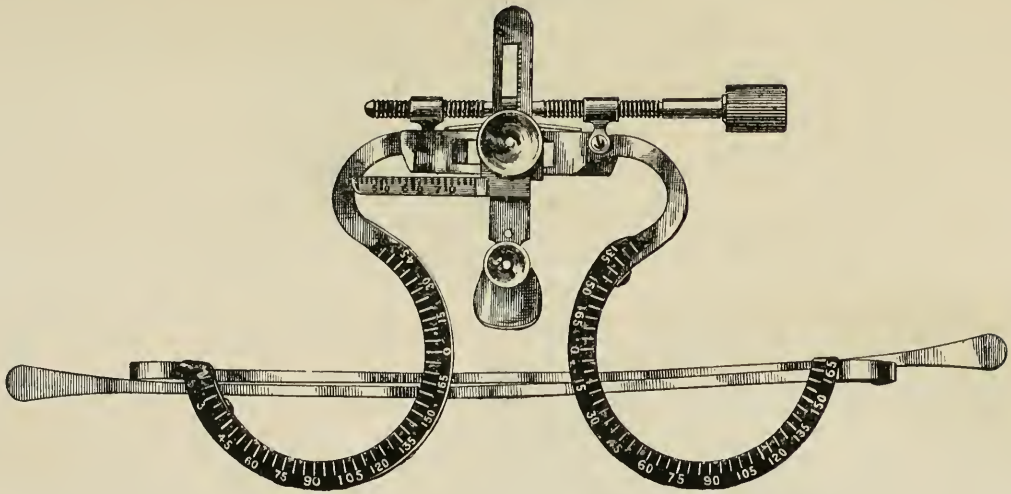

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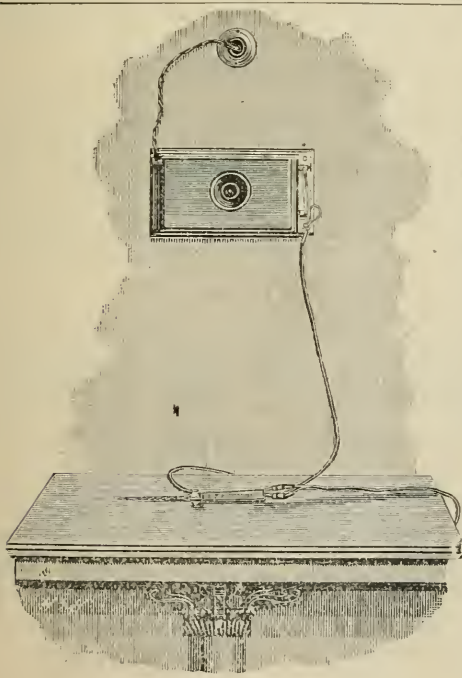

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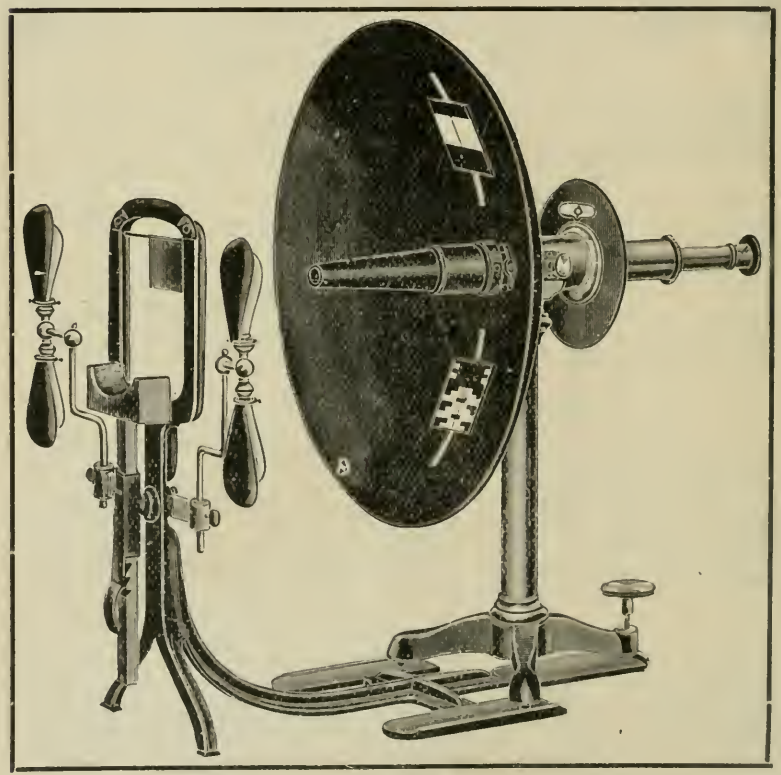

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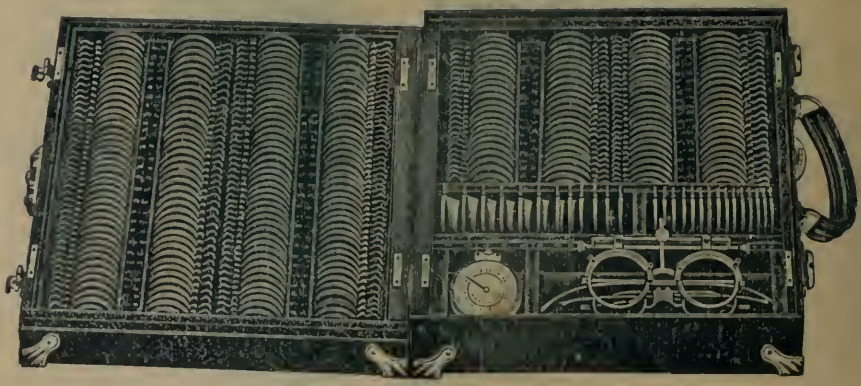

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